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### Claims

10 1. A flexural actuator having an elongated shape,  
comprising an attachment section for fixation of the  
flexural actuator and a functional section, extending away  
from the attachment section, able to be deflected athwart  
the longitudinal axis thereof by activation of the  
flexural actuator, such functional section being provided  
15 with at least one sensor means suitable for detecting  
longitudinal stretch, wherein the sensor means is placed  
at a position, and/or symmetrically on either side of such  
position, at which, when the functional section thrusts  
against a resistance there is a constant longitudinal  
20 stretch independent of the setting force.

25 2. The flexural actuator as set forth in claim 1,  
wherein the sensor means is placed on one of surfaces  
orientated in the direction of the deflection movement.

3. The flexural actuator as set forth in claim 2,  
comprising a plurality of such sensor means, which are  
placed in different planes on or in the flexural actuator.

30 4. The flexural actuator as set forth in claim 3,  
wherein on each of the two surfaces, orientated in the  
direction of the deflection movement, of the functional  
section in each case at least one sensor means is placed.

35 5. The flexural actuator as set forth in claim 1,

wherein the sensor means extends continuously over the position of constant longitudinal stretch.

5        6. The flexural actuator as set forth in claim 1, wherein the sensor means is interrupted at the position of constant longitudinal stretch.

10       7. The flexural actuator as set forth in claim 1, wherein the sensor means is adapted for capacitive measurement.

8. The flexural actuator as set forth in claim 1, wherein the sensor means is adapted for ohmic measurement.

15       9. The flexural actuator as set forth in claim 1, wherein the sensor means is strip-like in its configuration.

20       10. The flexural actuator as set forth in claim 1, wherein such sensor means extends along a substantial length along the flexural actuator and for customization resulting from a particular application the position of constant longitudinal stretch may be selectively deactivated.

25       11. The flexural actuator as set forth in claim 1, designed in the form of a piezoelectric flexural actuator.

30       12. An actuator means, comprising a flexural actuator which is fixed in place by means of an attachment section on a base, and which comprises a functional section extending away from the attachment section, which functional section is able to be deflected by activation of the flexural actuator athwart the longitudinal axis thereof and may be thrust against a resistance arranged in  
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with  
the deflection path and which is provided at least one  
sensor means responsive to the longitudinal stretch,  
wherein the sensor means is placed at, and/or in the  
longitudinal direction on either side, of a position, at  
5 which with the functional section thrust against the  
resistance, there is a constant longitudinal stretch  
independent of the setting force.

13. The actuator means as set forth in claim 12,  
10 wherein the resistance is constituted by a valve seat  
provided for a fluid duct.

14. The actuator means as set forth in claim 12 in  
15 the form of a fluid control valve.

15. The actuator means as set forth in claim 1,  
comprising evaluating means responsive to the deflection  
and/or the setting force of the functional section on the  
basis of the longitudinal stretch found using the sensor  
20 means.

16. The actuator means as set forth in claim 15,  
comprising evaluating for finding the deflection and/or  
setting force of the functional section on the basis of  
25 the longitudinal stretch measured with the sensor means  
and furthermore comparator means for comparison of the  
stretch integral round with a predetermined desired value.

17. The actuator means as set forth in claim 15,  
30 wherein the evaluating means are designed that to  
separately measure the stretch integrals of the sections,  
which lie underneath on either side of the position of the  
position of constant stretch, and to add together and/or  
subtract the stretch integrals to and, respectively, from  
35 each other.

18. The actuator means as set forth in claim 12,  
comprising such flexural actuator as claimed in claim 2.